

REMARKS-General

1. The objection of listing of references in the specification is noticed. A formal Information Disclosure Statement and copies of prior arts will be submitted upon the allowance of the instant invention.
2. In responsive to the objection of the drawings, the applicant respectfully submits that the claim 1 has been amended to delete the recitation of **two or more** nozzle ducts in order to overcome the objection of the drawings.
3. In responsive to the objection of the specification, the applicant respectfully amends the claims to delete the recitation of "a large portion of said mixture gas..." in previously amended claim 1, line 31, the recitation of "diverging a small portion of said mixture gas..." in previously amended claim 1, line 35, and the recitation of "wherein said large portion of said mixture gas..." in previously amended claims 11-16 in order to overcome the objection of the specification.
4. The claims 1 and 11-16 are amended to be of sufficient clarity and detail to enable a person of average skill in the art to make and use the instant invention, so as to be pursuant to 35 USC 112.

Response to Rejection of Claims 1-16, 21-24, 35-37 and 39-44 under 35USC112

5. The applicant submits that the claims are amended to particularly point out and distinctly claim the subject matter of the instant invention, as pursuant to 35USC112.

Response to Rejection of Claims 1-16, 21-24, 35-37, 39-44 under 35USC103

6. The Examiner rejected claims 1-16, 21-24, 35-37, 39-44 over JP '434 in view of Lonergon and Anderson et al. Pursuant to 35 U.S.C. 103:

"(a) A patent may not be obtained though the invention is **not identically** disclosed or described as set forth in **section 102 of this title**, if the **differences** between the subject matter sought to be patented and the prior art are such that the **subject matter as a whole would have been obvious** at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made."

7. In view of 35 U.S.C. 103(a), it is apparent that to be qualified as a prior art under 35USC103(a), the prior art must be cited under 35USC102(a)-(g) but the disclosure of the prior art and the invention are not identical and there are one or more differences between the subject matter sought to be patented and the prior art. In addition, such differences between the subject matter sought to be patented **as a whole** and the prior art are obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains.

In other words, the differences between the subject matter sought to be patent as a whole of the instant invention and JP '434 which is qualified as prior art of the instant invention under 35USC102(b) are obvious in view of Lonergan and Anderson et al at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertain

8. JP '434 describes a flow speed of fuel gas injected from a fuel tank is increased by a nozzle hole, air is taken form a suction hole under its negative pressure and then the fuel gas and the air are mixed to each other at a mixing pipe, wherein the mixture is dispersed at a dispersion cylinder and its speed is decreased there and further its speed is decreased and dispersed by a distributor at the extremity end thereof, the mixture is flowed into an annular space in the combustion cylinder through the dispersion hole, flowing-out of the gas flow is made relatively large at a central part of the upper part within the combustion speed of the combustible mixture gas of proper degree and then the mixture is burned within the combustion cylinder.

9. In view of the disclosure of cited art, JP '434, with the amended claim 1 of the instant invention, the following underlined portions indicate the differences between the subject matter sought to be patent as a whole of the instant invention and JP '434 which is qualified as prior art of the instant invention under 35USC102(b).

(a) a nozzle body having a root opening, an emitting opening, and at least an air inlet provided thereon, wherein said air inlet is positioned adjacent to said rooting opening to **define an elongated mixing chamber axially extended between said air inlet to said emitting opening**, wherein **said mix chamber has a diameter sized between 1mm to 2.5 mm** and a flow of air is capable of inletting into said mixing chamber through said air inlet (as claimed in claim 1)

(b) a torch nozzle, which is coaxially connected between said root opening of said nozzle body and said fuel valve, having a micro nozzle pore having a diameter of 0.05mm to 0.12mm and comprising a mesh filter provided below said nozzle pore for preventing residual particles of said fuel from entering said nozzle body, wherein said fuel released from said fuel valve is vaporized into a strong, pressurized gaseous fuel jetting into said mix chamber, wherein said jetting gaseous fuel and said air flowing through mix chamber are mixed to form a mixture gas at said emitting opening of said nozzle body (as claimed in claim 1)

(c) a torch head having at least two elongated nozzle ducts, each having an ignition end and a root end extended and opened into said root chamber, wherein said root ends of said two nozzle ducts are adjacently positioned to define a diversion joint edge therebetween while said two ignition ends of said two nozzle ducts are diverged and communicated with said ignition chamber to define a torch gap therebetween, wherein a main portion of said mixture gas at said emitting opening of said nozzle body bursts two or more ejecting beams of said mixture gas at said ignition ends of said nozzle ducts respectively (as claimed in claim 1)

(d) a torch stabilizing arrangement diverging a relatively small portion of said mixture gas at said emitting opening of said nozzle body to fill up said ignition chamber, wherein said sparks generated from said piezoelectric tip of said ignition unit first ignite said relatively small portion of said mixture gas filled in said ignition chamber to form a plurality of root flames which are united and mixed to form an environment root flame surrounding said torch head and said ignition ends of said nozzle ducts, wherein said environment root flame ignites said ejecting beams of said mixture gas burst from said ignition ends of said nozzle ducts to form two or more spaced torches while said environment root flame stabilizing and holding said spaced torches to form a strong and stable group of said torches (as claimed in claim 1).

(e) said air inlet being transversely formed on said root end and having a diameter slightly larger than said diameter of said mix chamber so as to provide a suction force to absorb said air into said mix chamber in such a manner that said mix chamber has a predetermined length and size arranged for said air and said gaseous fuel being evenly mixed to form said mixture gas at said emitting opening of said nozzle body (as claimed in claim 3)

(f) said diversion joint edge between said roots ends of said nozzle ducts being 1.5mm or less (as claimed in claims 7-10)

(g) said torch stabilizing arrangement having a plurality of diversion emitting openings formed around said torch head to communicate said root chamber with said ignition chamber, wherein said diversion emitting openings are positioned adjacently below said roots ends of said nozzle ducts (as claimed in claims 11-16)

(h) said main portion of said mixture gas flown into said root chamber being ejected through said two nozzle ducts and said relatively small second portion of said mixture gas is diverged to emit through said diversion emitting openings and fill up said ignition chamber to be ignited to form said environment root flame surrounding said torch head and said root portions of said torches (as claimed in claims 11-16)

(i) each of said diversion emitting openings being a longitudinal slot at least evenly spacedly formed around said root chamber of said torch head (as claimed in claims 21-24)

(j) said diameter of said nozzle pore being 0.08mm (as claimed in claims 35-38)

(k) said torch head being structured as a gear (as claimed in claims 39-44)

(l) a bottom portion of said diversion emitting openings being actually a layer of space defined by a top surface of said fuel ignition assembly and a bottom surface of said torch head, whereby said layer of space functions as multiple diversion emitting openings extending from said root ends of said nozzle ducts (as claimed in claims 39-44)

10. Lonergan merely describes a burner structure which is totally irrelevant to any structure or technology with a torch lighter. The technologies involved in the design of the gas supply with respect to the torch nozzle are difference between a burner and a torch lighter. Generally speaking, no torch flame like the piezoelectric torch lighter is required to produce for a burner.

11. Anderson et al, on the other hand, describes a multiple coherent jet lance which has no suggestion of any technology taught accordingly can be applied in the structure of a torch lighter. The applicant respectfully submits that the invention must be considered as a whole and there must be something in the reference that suggests the combination or the modification. See *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick*, 221 U.S.P.Q. 481, 488 (Fed. Cir. 1984) ("The claimed invention must be considered as a whole, and the question is whether there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination"), *In re Gordon*, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984), ("The mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification.") *In re Laskowski*, 10 U.S.P.Q.2d 1397, 1398 (Fed. Cir. 1989), ("Although the Commissioner suggests that [the structure in the primary prior art reference] could readily be modified to form the [claimed] structure, "[t]he mere fact that the prior art could be modified would not have made the modification obvious unless the prior art suggested the desirability of the modification.")

12. In the present case, there is no such suggestion. Lonergan and Anderson et al perform very different types of mechanism that never suggest any possible or desirability of applying any of their disclosed techniques into a torch lighter that can produce at least two torches as claimed in the instant invention.

13. In any case, even combining JP '434, Lonergan and Anderson et al would not provide the invention as claimed -- a clear indicia of nonobviousness. *Ex parte Schwartz*, slip op. p.5 (BPA&I Appeal No. 92-2629 October 28, 1992), ("Even if we were to agree with the examiner that it would have been obvious to combine the reference teachings in the manner proposed, the resulting package still would not comprise zipper closure material that terminates short of the end of the one edge of the product containing area, as now claimed."). That is, modifying JP '434 with Lonergan and Anderson, as proposed by the Examiner, would not provide a torch lighter having a preformed the above distinctive features (a) to (l) as stated above. In fact, neither JP '434 nor Lonergan nor Anderson et al, separately or in combination, suggest or make any mention whatsoever of the above distinctive features (a) to (l) of the instant invention.

14. Broad conclusory statements regarding the teaching of a reference is not evidence. There has to be actual evidence that is clear and particular. *Bard v. M3*, 157 F.3d 1340, 1352, 48 USPQ2d 1225, 1232 (Fed. Cir. 1998). "Mere denials and conclusory statements, however, are not sufficient to establish a genuine issue of material fact." See *McElmurry v. Arkansas Power & Light Co.*, 995 F.2d 1476, 1578, 27 USPQ2d 1129, 1131 (Fed. Cir. 1993). "The Examiner's conclusory statement that the specification does not teach the best mode of using the invention is unaccompanied by evidence or reasoning and is entirely inadequate to support the rejection." *In re Sichert*, 566 F.2d 1154, 1164, 196 USPQ 209, 217 (CCPA 1977).

15. The rejections in the Office Action, regarding "the mixing chamber diameter of 1mm to 2.5mm, a micro nozzle pore diameter of 0.05mm to 0.12mm, a mesh filter, and the duct spacing as set forth in applicant's claims, being able to be viewed a nothing more than a mere matter of choice in design absent the showing of any view or unexpected results there from over the prior art of record", are broad conclusory statements: The invention is obvious because they are considered "**obvious design choices**"; "unless unobvious or unexpected results are obtained from the changes", the invention is not patentable. Such broad conclusory statements are not sufficient to support the rejection.

16. The applicant respectfully submits that dimension of components will become essential element of a claim when such dimension contributes necessary and required structural limitations to achieve the objectives of the invention. Without the designated dimensions of the mixing chamber diameter (i.e. 1mm to 2.5mm), the micro nozzle pore diameter (0.05mm to 0.12mm) and the participation of the a mesh filter and the duct spacing features, the invention may not perform and achieve the objectives of the invention. Accordingly, since none of the cited arts, JP '434, Lonergan and Anderson et al, suggest any of such dimension as claimed in the instant invention, each of these cited arts is unable to achieve the objective of the instant invention.

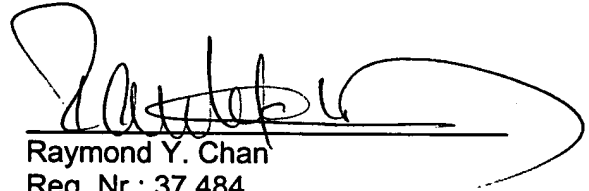
17. In other words, with the claimed dimensional limitations in the instant invention, the relative objectives of the instant invention become unexpected results of the instant invention that render the claims 1-16, 21-24, 35-37 and 39-44 of the instant invention being unobviousness.

The Cited but Non-Applied References

18. The cited but not relied upon references have been studied and are greatly appreciated, but are deemed to be less relevant than the relied upon references.

19. In view of the above, it is submitted that the claims are in condition for allowance. Reconsideration and withdrawal of the objection and rejection are requested. Allowance of claims 1-16, 21-24, 35-37 and 39-44 at an early date is solicited.

Respectfully submitted,




Raymond Y. Chan
Reg. Nr.: 37,484
108 N. Ynez Ave.
Suite 128
Monterey Park, CA 91754
Tel.: 1-626-571-9812
Fax.: 1-626-571-9813

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